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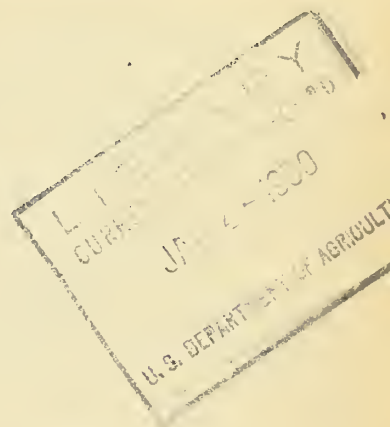
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MARKETING ACTIVITIES



U. S. Department of Agriculture
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IN THIS ISSUE:

POULTRY GRADING AND INSPECTION PROGRAM ANNOUNCED BY USDA

By Melvin W. Buster Page 3

This program is the result of nearly 2 years' study by the Department, the industry, and many other interested agencies and institutions.

PROPOSED PORK STANDARDS FEATURE MEAT-TYPE HOGS

By C. Lowell Strong Page 7

The new standards should establish top prices for hogs which turn out a higher ratio of the leaner, preferred cuts.

ARTICHOKES ANONYMOUS

By Elizabeth S. West Page 10

The globe artichoke is a table delicacy that is little known except to those of Latin origin.

QUALITY CONTROL BROADENS SOUTHERN PROCESSORS' MARKETS

By Earl F. Burk Page 13

Sometimes it's simply a fine point of processing "know-how" which makes the difference between good and top quality.

APPLE BRUISING CAN BE CHECKED

By Ray Heinen Page 16

The first bruise is the last so far as choice apples are concerned, for those bad spots don't get any better.

CCC ANNOUNCES SIZE OF PRICE SUPPORT INVESTMENT Page 18

This is a report on price support investments for the fiscal year 1949.

RADIATION EFFECTS ON PLANTS MINIMIZED BY AEC REPORT Page 20

Sometimes it takes science a few years to catch up with gossip, but it usually does.

USDA PROCLAIMS MARKETING QUOTA AND ACREAGE ALLOTMENT FOR COTTON Page 22

MARKETING BRIEFS Page 23

ABOUT MARKETING Page 25

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Poultry Grading and Inspection

Streamlined and Revised by USDA

By Melvin W. Buster

The voluntary poultry grading and inspection program of the U. S. Department of Agriculture has been streamlined and revised. The revisions, announced by the Production and Marketing Administration, cover grading and inspection, sanitation, and standards and grades for various kinds and classes of live, dressed, and ready-to-cook poultry, and ready to cook domesticated rabbits.

The new regulations serve to unify the 11 documents which previously governed grading and inspection of poultry, and more important, introduce two major changes:

(1) For the first time the grading and grade labeling of ready-to-cook poultry is permitted without inspection for wholesomeness by a Federal veterinarian. However, carcasses affected by, or showing evidence of, disease or any condition which may render them unwholesome or unfit for food, are not included in any grade designations.

(2) Grading and inspection of poultry in official plants--that is, those which utilize the Federal or Federal-State grading service--must be carried on under prescribed minimum sanitary facilities and procedures. Previously there were no sanitary requirements for the slaughtering and dressing of poultry as a prerequisite to grading.



LEFT: The official identification may appear on the carton containing individual birds or cut-up parts, or it may be used as a label or tag attached to the bird--usually on the wing. RIGHT: The official inspection mark will be applied in the



same manner, but only on birds which have been examined for wholesomeness by the Department. An approved combination of the two may be used where both services have been performed.

Labeling and Grading Summarized

Summaries of other changes, incidental to the major revisions, include these:

The term "ready-to-cook" will be used in place of the terms "eviscerated" or "drawn", to which some have attributed slight consumer objections.

Federal grade terms A or 1, B or 2, C or 3, will be used for live poultry, while only the letter designations will be applied to dressed and ready-to-cook, including cut-up poultry.

Under the new provisions only poultry and domestic rabbits meeting the respective minimum specifications of A and B quality may be individually labeled with approved grade labels, and when so labeled each bird and rabbit in a package or lot must meet the minimum specifications for the respective quality.

Bulk or wholesale packs may be labeled as of the three grades, including C, and 10 percent of the next lower quality is permitted in Grade A and Grade B packs, but no birds or rabbits may be individually labeled in such packs.

Ready-to-cook poultry and ready-to-cook domestic rabbits which are both officially graded and inspected for wholesomeness may carry distinctive approved labels indicating certification for both types of services.

Shield Will Carry Grade

The official grade label will be in the form of a shield upon which will be the U. S. Grade and class of the product it identifies and shall include one of the following phrases: "Officially Graded", "Federal-State Graded", "Federal Graded", or "Government Graded", or a phrase of similar import.

The official inspection label will be a circle carrying the inscription: "Inspected for wholesomeness by the U. S. Department of Agriculture".

Trade labels must bear the true name of the edible product, the name and address of the packer or distributor, and in prominent letters and figures the inspection mark and the plant number, if any, of the official plant in which such product was inspected and certified.

Packages of cut-up poultry and cut-up domestic rabbits may carry appropriate approved and distinctive grade labels when the whole eviscerated birds and the whole eviscerated domestic rabbits from which the cut-up parts are derived have been officially graded as A or B quality respectively.

Dressed poultry and dressed domestic rabbits in the process of evisceration and preparation of ready-to-cook poultry and ready-to-cook domestic rabbits may be inspected for wholesomeness only, without grading, and may be identified and certified accordingly with distinctive labels or marks.

Dressed poultry and dressed domestic rabbits in the process of evisceration, and preparation of ready-to-cook poultry and ready-to-cook domestic rabbits and their products for canning, may be inspected for wholesomeness, and the containers may carry the distinctive circle indicating certification for such service.

All of the above types of grading and inspection services may be performed in the same plant, but where more than one type of service is performed in a single plant, precaution must be taken to maintain identity and separation of different types of products which are labeled differently.

Poultry Classes Outlined

In the new specifications all poultry products are defined according to kind and class. Kinds of poultry are: Chickens, turkeys, ducks, geese, guineas and pigeons. Rabbits are separately classified together with grade specifications.

The classes of poultry are based upon age, sex, and usual cooking methods, and the definitions include specifications for meat texture and color, skin texture, condition of breastbone and conditions of bill and windpipe in water fowl.

Chicken classes are specified as: Broiler or fryer, roaster, capon, stag, hen or stewing chicken or fowl, and cock or old rooster. Turkeys are classified as fryer, young hen turkey, young tom turkey, mature hen turkey or old hen turkey and mature tom turkey or old tom turkey.

Duck classes comprise the following: Broiler duckling or fryer duckling, roasting duckling, and mature duck or old duck. Geese classifications include: Young goose and mature goose or old goose. Guineaes are classified as: Young guinea and mature guinea or old guinea. Pigeons are placed in two classes: Squab and pigeon.

Only Letter Designations Apply To Carcasses or Cut-up Birds

For all these classes the three grades are applied to live birds and to dressed and ready-to-cook carcasses except that only letter designations may be applied to carcasses and cut-up birds. The grades are based on many factors defined in detail by the specifications.

Rabbit classes are defined as: Fryer, roaster and mature or old domestic rabbit. Rabbit carcasses are graded largely on the basis of conformation and fleshing.

Grading for all poultry will be performed by Federal graders or by graders operating under a Federal-State arrangement. Plants where either system is operative are termed "official plants". While some grading of live poultry is carried on, the bulk of this work will be done with dressed poultry, or following evisceration.

For those plants which operate under the official grading and inspection program, the minimum standards for sanitation apply to facilities and operating procedure. These are defined in considerable detail in the new regulations, and requirements for personnel health and hygiene are included.

Program Result of Much Study

The new program is the culmination of nearly two years' study during which progressive conferences were devoted to a revision of all poultry standards and grades and the development of a broader poultry grading program. Attendance at the conferences consisted primarily of representatives of producers, processors, wholesale and retail distributors and consumer organizations in addition to representatives of State departments of agriculture, State agricultural colleges, public health agencies, veterinarians, and Federal and State grading officials.

In turn the recommendations emanating from these conferences have been developed with the advice of the Poultry Industry task group on Development and Application of Poultry and Egg Standards and Grades, and with subcommittees on live and cut-up poultry. In addition, the recommendations and criticisms of all other interested parties have been solicited and considered. The final regulations will be published for general distribution about Nov. 1, 1949 and the effective date will be Jan. 1, 1950.



TRIGG NAMED TO FOOT-AND-MOUTH COMMISSION

Secretary of Agriculture Charles F. Braman has announced the appointment of two new members to represent this country on the Joint Mexican-United States Commission for the Eradication of Foot-and-Mouth Disease. They are Ralph S. Trigg, administrator of the Production and Marketing Administration and president of the Commodity Credit Corporation, and Dr. M. R. Clarkson of the Bureau of Animal Industry, both of the U.S. Department of Agriculture.

Mr. Trigg directs the meat purchase program in northern Mexico, designed to find outlets abroad for canned meat, normally shipped to this country as live animals before the outbreak of foot-and-mouth disease in other areas of Mexico. The Tariff Act of 1930 prohibits the importation of domestic ruminants and swine from countries in which foot-and-mouth disease exists. Dr. Clarkson is chief of BAI's Inspection and Quarantine Division, the agency responsible for the technical phases of the Mexican program.

Proposed Pork Standards

Feature Meat-Type Hogs

By C. L. Strong

The proposed standards for grades of slaughter hogs and pork carcasses released in early August by the Livestock Branch have stimulated much interest and favorable comment among both producers and processors of hogs.

The current wide spread between the prices of fat and lean cuts of pork has focused attention on the inadequacies of a marketing system for hogs which is based largely on weight. Hogs of the same weight may vary widely in the ratio of fat to lean cuts which they produce. Therefore, in the development of the new grades major emphasis has been placed on a system which will reflect the ratio of lean meat to fat cuts or actual merit of hog carcasses.

Meat-Type Hogs Featured

Numerous requests have been received for information and actual demonstrations of the proposed grades from all segments of the industry. After checking these grades for several weeks, one midwestern packer initiated the principles of the new system by inaugurating a "Meat-Type Hog Week" during which premium prices were paid for the proposed U. S. Choice No. 1 grade. At the same time demonstrations of the new grades were carried on for the education of producers. Hog feeders who have become acquainted with the new proposals see in them not only a more accurate yardstick of market value but the establishing of a new objective in their feeding operations.

Though the standards are still tentative, and suggestions and constructive criticism are welcomed, the Livestock Branch of USDA's Production and Marketing Administration has based the new proposals on sound research financed by Research and Marketing Act funds. In addition, State experiment stations, the meat industry and others have made similar extensive studies of hog carcasses and comparative yields of the best cuts. Since meat is the major end product of swine production it was reasoned that grade standards for either carcasses or live hogs should be based on the measurable characteristics of the pork produced. The studies showed that two factors are of primary importance: (1) the ratio of lean to fat cuts, and (2) the quality of the meat in the cuts themselves.

Various carcass measurements have been studied to determine a practical and reliable means of determining the ratio of the four lean cuts

(hams, loins, picnics and butts) to the fat cuts. After considerable research it was found that an average of three back fat thicknesses, when considered with either carcass length or weight, provides a good basis for estimates of lean cut yield and quality of cuts. Therefore, the proposed standards have as their fundamental bases, the measurements of carcass lengths or weight and thickness of back fat.

The Trend Is
Away From This



Toward This



The following schedule has been worked out as one which provides for a uniform and constant yield of lean cuts within a grade for hogs yielding carcasses from 92 to 240 lbs. in weight. The schedule provides for a workable range in yield within a grade. That is, it has been found that with 1/10 of an inch increase in back fat, weight or length remaining constant, the yield of the 4 lean cuts decreases by 1%.

TENTATIVE SCHEDULE FOR GRADES OF BUTCHER BARROWS AND GILTS

Weight (lbs.)		Average Back Fat Thickness of Carcass, by Grade 1/				
Live	Carc.	Choice	Choice	Choice	Medium	Cull
(Approx.)		No. 1	No. 2	No. 3		
		Inches	Inches	Inches	Inches	Inches
140	92)			more than		less than
	)	1.46-1.74	1.74-2.03	2.03	1.03-1.46	1.03
170	115)			more than		less than
	)	1.51-1.79	1.79-2.08	2.08	1.08-1.51	1.08
200	138)			more than		less than
	)	1.57-1.85	1.85-2.14	2.14	1.13-1.57	1.13
230	162)			more than		less than
	)	1.62-1.90	1.90-2.19	2.19	1.18-1.62	1.18
260	187)			more than		less than
	)	1.68-1.96	1.96-2.25	2.25	1.24-1.68	1.24
290	213)			more than		less than
	)	1.74-2.02	2.02-2.31	2.31	1.30-1.74	1.30
320	240)					

1/ Average of measurements made opposite first and last ribs and last lumbar vertebra.

All Choice grades of hogs produce cuts which are acceptable as Choice in quality under normal trading practices. The Choice No. 1 grade includes hogs which have about the minimum quantity of fat required to produce Choice quality cuts. The Choice No. 2 and Choice No. 3 grades carry respectively more fat and produce correspondingly lower yields of lean cuts, but all cuts are of Choice quality.

Although hogs of Medium and Cull grades produce carcasses that are higher in lean cut yields than hogs in the Choice grades, such carcasses are subject to discount for quality in proportion to their underfinish.

While the use of objective carcass grades would provide an equitable basis for producer-packer trading, its ultimate application appears limited because of the nature of our marketing system, though at least one packer is initiating a system of buying on carcass grade and weight. However, the same characteristics that are used to distinguish between grades of pork carcasses are also evident in a visual appraisal of live hogs, and as such, form the basis for grade standards of the live animals.

Preliminary trials indicate that experienced judges or buyers of hogs quickly attain a high degree of accuracy in selecting live hogs on the basis of expected carcass characteristics; therefore, little difficulty in the application of live hog standards is anticipated.

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HOG PRICE SUPPORT LEVELS ANNOUNCED THROUGH MARCH 1950

Monthly hog price support levels for the period October 1949-March 1950 have been announced by the U.S. Department of Agriculture as follows: October, \$16.40 per hundred pounds; November, \$15.00; December, \$14.20; January, \$14.90; February, \$15.50; March, \$16.20.

The support levels are based on 90 percent of the September 15, 1949, parity price of hogs of \$17.60. This figure is adjusted to reflect in each monthly support price the usual seasonal price variations.

The monthly support levels are the amount at which average hog prices must be maintained if farmers are to receive 90 percent of the parity price for hogs. The support figures are comparable to the average price received by farmers, which on September 15 was \$19.90 per hundred pounds.

In addition to monthly levels, weekly guides are also determined as an aid in carrying out actual support operations if needed. Weekly guides are a composite figure for seven mid-western markets and are comparable to the combined average market price of barrows and gilts at these localities. The weekly guides are not regarded as specific support levels at these markets. However, since they do reflect the normal weekly relationship between the average price at these seven markets and the national monthly average price, they make a desirable guide for any support operations that may be required.

This method of hog price supports was first announced for the September 1949 period. Previously support levels had been on a weekly basis for the Chicago market with fixed differentials for other markets. The seven markets combined are: Chicago, St. Louis National Stockyards, South St. Paul, Sioux City, Omaha, Kansas City, and South St. Joseph.

Artichokes Anonymous

By Elizabeth S. West

Globe artichokes are in season. This tasty vegetable, looking something like the green, spiny top of a pineapple, and tasting only like artichoke, will be available on most markets from October until next May.

How large the 1949 crop will be won't be known until December. The acreage in California, the only area in which globe artichokes are grown commercially, is 7,900 acres, the same as in 1948. If production comes even close to the 32,800,000 pounds harvested in 1948, there will be enough artichokes on the market to fill the demand.

The globe artichoke--not to be confused with the Jerusalem artichoke, the tubers of which are the edible part--is a member of the thistle family. In the case of the globe artichoke, the unopened flower heads or buds constitute the edible portion.



A Riviera Native

The ancestor of the globe artichoke, the wild cardoon, is native to the shores of the Mediterranean Sea, Spain, Morocco, southern France, Italy, and Greece. The wild cardoon was cultivated for centuries for its succulent stalks. Then, along in the 14th century, somebody discovered that the flower head of the improved and domesticated cardoon was good to eat.

The Spaniards probably brought the globe artichoke to the New World, and it continued to be popular wherever the Spaniards or French colonized. It was known at an early date in Florida, Louisiana, and California.

The globe artichoke is really the flower head of a large plant in the thistle family. Originally the plant's stalks were eaten--before someone discovered that the flower was more tasty.

Some globe artichokes were produced commercially

in Florida and Louisiana in the late 1800's, but commercial production today is centered in the "fog belt" of California, principally in the coastal counties south of San Francisco--Monterey, San Luis Obispo, San Mateo, Santa Cruz, and Santa Barbara counties. Monterey County is, by far, the largest producing area.

These coastal counties are ideal for growing globe artichokes, which require a climate free from frost in winter and cool and foggy in summer. Even mild frost harms the appearance and marketability of this fine vegetable, but not necessarily its flavor. Many artichoke fanciers maintain that a mild frost causes the artichokes' outer leaves to "snug up" in a way that protects its more tender inner parts.

Globe artichokes need rich, deep soil, and a great deal of natural fertilizer, such as stable manure and compost. The plants also must be well irrigated, particularly before blooming time to help the development of a great many buds.

It is the immature flower bud, 1 to 4 inches in diameter, which is the edible and marketable part of the plant. The large, unopened flower heads are enclosed in a globe of bracts which have a thick fleshy base. While this fleshy receptacle has the more delicate flavor, the ends of the bracts are also fleshy and edible, and the very tender inner bracts are eaten whole.

Postwar Plants Defy Old Custom

Artichokes are perennials, that is, they come up year after year without replanting. Because the buds tended to become smaller on older plants, California growers used to practice rotation planting, wherein a section of each ranch was replanted yearly. During the war, labor shortages interrupted this procedure, and now some California plants, known to be 11 years old are defying their prewar habits and are still prolifically producing fine, properly-sized artichokes.

The hand method of harvesting artichokes has not changed with the years. Cutters nip off the vegetables with a small curved knife, placing them carefully in a cloth sack. Packing, however, is somewhat more modern, due largely to inspections conducted by the California Fruit and Vegetable Standardization Bureau of the State Department of Agriculture. There are about 100 artichoke ranches in Monterey County, California, and every rancher is responsible for his own sizing, grading, culling and packing. His packed boxes are delivered to a broker, who contacts market outlets.

There are two postwar developments in the marketing of artichokes which are significant. First, a new version of the half-box, which allows the vegetable to be packed without bulge, was introduced successfully last year. A more startling innovation, however, is a process for preparing artichokes so that they may be frozen successfully. In a Santa Clara plant preliminary experiments with freezing have been declared feasible, not only for whole artichokes, but for dressed and stuffed artichokes, which may, after thawing, go straight from the deep freeze to the oven.

Artichokes are shipped eastward in refrigerated cars to all the large city markets, both in the United States and Canada. It is in the big cities, where there are many people of Italian, Greek, Spanish, and French extraction, that artichokes are in the keenest demand. However, more than half of the annual crop is consumed in California, being widely distributed to practically every town and city in the State.

Strangely enough, the sale of artichokes was banned in its largest eastern outlet--New York City, for a time in 1936--and by no less a personage than His Honor, Mayor Fiorello La Guardia. The tempestuous La Guardia had no quarrel with artichokes, as such, but he did have a running fight on with a group of racketeers, and banning the sale of artichokes appeared to be one way of stopping the racket.

It seems that a produce company had obtained a complete "corner" on the artichoke market. Any push cart peddler, any market stall operator, any food store owner was required to buy his artichokes from the racketeering produce company "or else."

La Guardia moved against the racketeers in two ways: First, he indicted six of the ringleaders, and second, he prohibited the "sale display, and possession of artichokes . . . in all public markets under the control and jurisdiction of the City of New York," to stamp out all vestiges of the illegal scheme. The mayor's campaign was successful and artichokes are now sold as freely in New York City as head lettuce.

Artichokes Something of a Mystery Dish

This vegetable is generally unknown to those not of Latin origin, and as a result, it is often passed up as a mystery dish of the gourmets. Actually it is easily prepared as a very old French recipe illustrates.

Two tablespoonfuls of pure olive oil are put in a Dutch oven, along with a half dozen or so small globe artichokes. Once dusted with salt and pepper and covered, they are allowed to cook very slowly, being turned occasionally until they are tender and browned slightly on the outer leaves.

Another favorite calls for larger, but tightly closed artichokes. These are parboiled in rapidly boiling salted water until the outer leaves can be pulled off easily. After being removed from the water, drained, and cut in halves, the blossom centers are taken out and piled on a platter for serving. Hollandaise sauce or drawn butter sauce adds the last touch at the table.

The Italians, Portuguese and Spanish-Mexicans, who make up the majority of the grower-packers of artichokes, and the residents of Castroville--"the Artichoke Center of the World"--feel that no one knows the vegetable unless it has been stuffed with sausage and baked.

A Greek favorite rounds out the recipes by nationalities. In it the versatile artichoke is halved or quartered, depending on its size, dipped in a thick batter and then fried in deep fat, olive oil or butter.

✓ Quality Control Broadens Southern Processors' Markets ✕

By Earl F. Burk

Southern canners are proving again that one way to sell more is to put out a better product.

Greater market outlets are the reward for fruit and vegetable processors who are practicing quality improvement programs with the help of the U. S. Department of Agriculture. The aid, offered in the form of cooperative analysis and suggestions for improvement of methods of plant operation, is directed by the Fruit and Vegetable Branch of the Production and Marketing Administration and financed under the Research and Marketing Act.

During and immediately following the war, the number of plants processing fruits and vegetables expanded greatly. The abnormal demand for canned foods promoted a rush to process all available supplies to feed the armed forces and a hungry world. In some areas, many of the processors were newcomers to the industry. This was due in some cases to new commodities and different methods of preparing the products and varying processing techniques. The result, inevitably, was that quality was not emphasized to the greatest extent.

Outlets Dwindle for Low Quality Products

In the pressure of wartime demand for the greatest possible sources of foods, commercial buyers and the consuming public were forced to ignore, to a great extent, their concept of prewar quality. This sacrifice of quality for quantity was evident in most wartime products where wholesomeness was not at stake. When these severe shortages were filled in the immediate postwar period, however, some of the most exacting customers began to reject low quality merchandise. These early refusals were only a prologue to more widespread rejection by most commercial handlers and the public as increased supplies of superior commodities became available.

It was at this point--as their markets dwindled--that the processors turned to the Department for its aid in obtaining quality improvement. PMA made available to the problem areas in Texas, Louisiana, Mississippi and Alabama the services of a specialist authorized to help individual processors analyze their own difficulties, commodity by commodity. The results have been well worth the efforts. Improvements have been reported in 8 commodities and grateful processors have asked for extension of the service.

Problems connected with sweetpotato processing proved to be the most difficult encountered by the specialist. With this commodity, the packing techniques were well established, even if they were not resulting in the best possible pack. Many companies were using too small a raw product. In some instances water pressure at the plant was insufficient for washing the lye-scalded sweet potatoes, and as a result spotty discoloration occurred later where tissues retained small amounts of lye. In other processes, where too long a time elapsed between the final trim and the closure of the can, excessive oxidation resulted.

Realizing that correction of these conditions meant the difference between success and failure so far as moving the pack was concerned, the Department specialist pointed out to several processors the necessity for quality, and then helped them get it. Other packers soon fell in line in order to compete. One of the leaders in the processing improvement succeeded in developing the highest quality pack considered economically feasible. As a result of its efforts, this plant was rewarded this fall with far more commercial orders than it can hope to supply.

Exact Procedures Turn Out Best Products

With other commodities it frequently turned out in the analyses that slight modifications in processing techniques were sufficient to correct the many faulty packs. For example, one plant was canning snap beans before they had reached the proper stage of maturity. Another was putting up a frozen pack which varied too greatly in size. Still another was careless about the percentage of defective beans.

Similar situations existed in the processing of other products. One packer of frozen sweet corn, for example, was taking quite a loss on his product through spoilage--after the entire processing operation had been completed. It turned out that he had been under-blanching corn on the cob when a longer blanch was essential to producing a good frozen product. On the other hand, okra--a Southern crop that is becoming popular elsewhere--was being penalized because it was being held too long at high temperatures. The results were undue loss in coloring and bright appearance essential for best consumer appeal. Investigation also showed that failure to change the water frequently in which the okra was blanched resulted in an undesirable darkening of the product.

In the case of strawberries the Department specialist found that he could work best with producers and processors through State-sponsored meetings at which he spoke pointedly on the need for quality control. At these meetings the growers and packers were convinced that they could compete successfully with berries processed in other areas only by maintaining higher quality standards. As a result this season's processed berries were greatly improved over the 1948 pack, in spite of adverse conditions which made heavy sorting of its berries necessary.

Not all the processing problems have been solved for some of the commodities. In the work on the several varieties of Southern peas the specialist saw the need for an entirely different approach. There was a need for U. S. Standards. Accordingly, his first move was to seek data

on which to base development of grade for properly classifying quality. The Federal official has therefore submitted data which the Department is considering in order to develop adequate standards for Southern field peas and Black-eye peas.

Other problems connected with processing and harvesting of field peas are still to be solved, however. For some varieties, the cause of ruptured peas mixed throughout the can is something of a mystery, just as discoloration of the peas at the ends of the cans is still troublesome. Many of these difficulties which tend to lower the quality of the product can be corrected. When the new standards are issued, the established requirements for the different grades will be defined and the job will be made easier.

Broccoli is another commodity for which more information is still needed by the processors. Data which will help fill this gap are being collected.

Generally the cooperation from the packers has been excellent. In many instances their frankness in appraising their problems has been surprising and always it has been encouraging. It has been through this practical and cooperative appraisal of the whole problem that progress has been made, and already greater markets for Southern-grown and-processed fruit and vegetable crops are being developed.

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REVEALING PACKAGES MORE POPULAR FOR RICE AND DRY BEANS AND PEAS

More and more grocery dealers prefer that rice and dry edible beans and peas they sell be packaged in transparent film. This preference was indicated in a recent survey in 30 cities, by the U. S. Department of Agriculture, of sales by 350 wholesale and retail dealers. In these cities solid carton and kraft packages seemed to be losing popularity to the more revealing window-front and all-cellophane types.

Stronger and more durable cellophane is being used to assure less shelf breakage, the study also brings out. More of the heat-seal type of cellophane is being used, to take advantage of all-automatic machinery for the making, filling, and sealing of bags.

Sales are increased by a display of high-quality, attractive packages of beans, peas, and rice in retail stores because many housewives decide to buy on the impulse while they are in the grocery store. The trend is to package beans of much higher quality in the transparent packages.

The survey was made by the Grain Branch, Production and Marketing Administration, USDA, under the Research and Marketing Act of 1946, with the object of obtaining information about package preferences for the commodities in key cities. A detailed report of the survey is available from the Information Branch, PMA, U. S. Department of Agriculture, Washington 25, D. C.

Apple Bruising Can Be Checked

By Ray Heinen

Apple bruises, unfortunately, do not heal. "One bad apple," as the saying goes, "can rot the barrel."



Of course not very many apples are packed in barrels anymore, but bruising is still a menace. Because of the very large crop this year--nearly 130 million bushels, and 40 million bushels more than last year--growers will have to put up a pretty good pack to move a substantial percentage of production into marketing channels. Growers and handlers will do well to follow the recommendations of plant scientists, of the U. S. Department of Agriculture, who have made extensive studies of the bruising problem. The project was carried on under the Research and Marketing Act of 1946.

That Rough Packing Line

The studies, which were carried on at Wenatchee, Wash., show that precautions against bruising cannot be relaxed at any stage throughout the harvesting and packing process. The three most critical danger points, however, were found to be in the packing line where more damage occurred than in the combined operations of picking, hauling and handling. In one study made on medium-size apples of the Delicious variety the researchers singled out these operations as being critical:

- (1) Dumping--either mechanically or by hand. A tall worker who flipped the fruit on the dumping table belt caused 12 severe bruises per 100 apples as against two for a more careful worker. Apples dumped into a water bath showed fewer bruises than those carefully dumped on a canvas belt as it passed over a solid surface.
- (2) Drops--when the apples were moved from one level to another for different operations or when the fruit was carried on endless conveyers. The newer machines with dumping table and washer progressor on the same level caused fewer bruises than old-type machines.
- (3) Hits--on the edges of the distribution roll and the metal frames of sizing cups as the result of faulty adjustment and operation of sizing equipment. The plant scientists pointed out that it is extremely important to have the three moving parts of weight-type graders accurately timed.

Shocks Prevented by Pallets

Perhaps the most significant single development in bruise-prevention techniques, however, is the use of pallets--wooden platforms on which 24 to 30 boxes of apples may be placed and moved as a unit by fork-lift trucks. With careful operation of the trucks the apples may be moved in large volume with a minimum of jostling and bruising. Only one-fifth as much bruising was found when apple boxes were handled on pallets as when the boxes were handled separately by hand.

Bruises incurred during storage of loose fruit was also found to be less with palletized apples. During receiving, stacking in cold storage, and delivery to the packing line later in the season, only 61 percent as many bruises resulted as when the individual boxes were handled. In this comparison both cold storages used were separated from the packing houses. The boxes were stacked 5-high on pallets and the pallets were stacked 3-high in the cold storage. Palletized apples were moved from cold storage to the packing houses by the fork-lift trucks.

Where the boxes were handled individually, they were moved to position by hand truck and stacked 8-high in cold storage. At the time of packing, the stacks were broken down for movement to and from the motor truck used to transfer the fruit from the cold storage to the packing house.

Supervised Picking Easier on Apples

Studies made of bruising during picking showed that the amount of bruising was directly related to the amount of supervision of the operation. The use of canvas bags and canvas-bottom metal buckets greatly decreased the amount of injury, both because they were easier on the fruit and because they made everyone concerned more bruise-conscious.

All of the various phases of the Wenatchee tests have been summarized in detail, with illustrations and tables, in a report entitled "Investigation of Apple Bruising, Wenatchee, Washington, 1948-49." The report, which is particularly complete with respect to the technical bruising problems involved in the washing, sorting and sizing processes, may be obtained upon request from the Bureau of Plant Industry, Soils, and Agricultural Engineering, Beltsville, Md., or from PMA's Information Branch, USDA, Washington 25, D. C.

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"FLAT SOUR" OF TOMATO JUICE READILY PREVENTED

Losses to commercial canners from so-called "flat sour spoilage" of tomato juice may be avoided by heating the juice for a sufficient length of time to destroy the vegetative cells of the flat sour organism and by maintaining the acidity of the juice at a point which prevents the germination of the spores of these organisms. These points have been confirmed in studies made in the bacteriological laboratories of the State Experiment Station at Geneva, New York.

CCC Announces Size Of Price Support Investment

The Commodity Credit Corporation reported recently that \$2,373,000,000 was invested in the CCC price-support program as of June 30, 1949--the end of the 1949 fiscal year.

Of the total investment, loans outstanding totaled \$1,291,000,000, while inventories acquired under loan, purchase agreement, and direct purchase operations represented a cost of \$1,082,000,000.

Price-support operations in four commodities accounted for the bulk of the loan total. These commodities, the quantities of collateral pledged, and the loans outstanding, were as follows:

Cotton, upland	3,877,766 bales	\$ 609,183,898
Corn	345,522,475 bushels	476,967,053
Tobacco	347,230,852 pounds	134,681,590
Wheat	20,986,006 bushels	40,307,362
Other	-	26,639,112
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Total	xxx	\$1,290,779,015

Included under "Other" above were loans on American-Egyptian cotton, flaxseed, peanuts, soybeans, potatoes, barley, dry edible beans and peas, grain sorghums, oats, rice, rye, rosin, and turpentine.

Items in the inventory of the CCC as of June 30, the quantities involved, and the cost, were as follows:

Wheat	227,178,163 bushels	\$ 529,281,550
Flaxseed	17,524,698 bushels	109,725,121
Linseed oil	295,835,870 pounds	81,895,696
Dried eggs	63,183,456 pounds	81,328,091
Wool	96,020,242 pounds	75,704,008
Grain sorghums	13,659,380 hundredweight	37,736,606
Other	-	166,093,402
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Total	xxx	<u>\$1,081,764,474</u>

"Other" items in inventory included cotton, flax fiber, butter, dried milk, peanuts, soybeans, dried fruit, potato starch, barley, dry edible beans and peas, oats, rice, rye, hay and pasture seeds, rosin, turpentine, and tobacco.

In carrying on its price-support program in June, the CCC sustained a net realized loss of \$20,000,000, largely on potatoes, peanuts, grain sorghum, and wheat. The net realized loss for the entire fiscal year 1949--largely represented by losses on operations in potatoes, peanuts, and wool--was \$254,000,000.

The CCC is authorized to have borrowings outstanding at any one time of \$4,750,000,000 to carry on its various programs, including the price-support program. As of June 30, 1949, the CCC had in use \$2,203,000,000 of its statutory borrowing authority. This left a net statutory borrowing authority available of \$2,547,000,000. In addition, other current operating obligations of the CCC amounted to \$565,000,000, some part of which may be liquidated by the use of borrowing authority.

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CCC TERMINATES LEASE ON BRONX MARKET

The Commodity Credit Corporation has announced that it has terminated its lease on the Municipal Terminal Market, at Bronx, N.Y., as of October 8.

In making the announcement, Ralph S. Trigg, CCC President, said, "Termination of the lease on this large cold-storage warehouse is in line with CCC's policy of utilizing, to the fullest extent possible, private facilities and normal channels of trade in carrying on its operations. During the war and for some time after the war, the Government needed the assurance that refrigerated warehouse space would be available for perishable commodities in the New York area. But with adequate commercial cold storage space now available in the area, the Corporation is terminating the rental of the Bronx facilities."

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EGG PRICE SUPPORT PROGRAM CONTINUED UNCHANGED THROUGH DECEMBER

The U. S. Department of Agriculture has announced that it will continue to support egg prices in the Midwest during the months of November and December at levels reflecting an average price to producers of 35 cents per dozen for shell eggs in order to carry out the mandatory provisions of the law. This is the same support price that has prevailed throughout the year 1949.

The Department will carry out its support obligations by the purchase of dried eggs from vendors who certify that they have paid producers not less than the support price for all the shell eggs they buy. Offerings of dried eggs for November delivery have been received since October 11. Offerings for December delivery will be received beginning Tuesday, November 8.

Radiation Effects on Plants

Minimized by AEC Report

Early reports of the miraculous growth-producing effects of radiation on plants and animals have been almost completely debunked by the sixth Semianual Report of the Atomic Energy Commission. The Report, dated July 1949, is addressed to the President of the Senate and the Speaker of the House.

Following the atomic blasts in Japan in 1945, numerous reports indicated extreme productivity of plants in gardens in the bombed areas. Scientists later refuted these claims but public acceptance of the theory prompted a manufacturer to capitalize on a commercially produced fertilizer said to be potent because of its radioactivity.

Under contract with the Atomic Energy Commission, the U. S. Department of Agriculture has tested this commercial product together with certain other definitely known radioactive materials. Fourteen States cooperated in the venture and their agricultural experiment stations served as sites for the tests. The commission reports that the 1948 experiments, which were made on 17 different crops, "revealed neither benefits nor damage to crop growth and yields from the radioactive materials applied." Continuation tests will be run to check on the possibility of second-year effects or potential reactions at varying levels of radiation.

During the same period additional tests were made in greenhouses where the reactions of vegetables and flowers to a much wider range of radioactivity were observed. Again the Commission states that thus far no beneficial effects have been noted.

Exposed Cattle Reproduce Normally

The Commission report follows a similar negative line so far as radioactivity may affect animal reproductivity. Of the herd of cattle inadvertently exposed in the bomb test in New Mexico the Commission states that there has been "no evidence to date of any adverse effects on the fertility of either the exposed cows or bulls."

The original herd included calves, yearlings, steers, cows, and bulls. Of the 26 cows and 24 heifer calves in the herd, 49 have borne calves, all of which were normal. Thirty-three normal calves were the offsprings of the matings of one of the exposed bulls bred to exposed cows. The only evident immediate effect of exposure to the bomb dust has been the partial graying of hair on the Hereford cattle.

Tests and observations will be continued periodically on the herd. Autopsies will be performed to check for both radioactivity and injury due to radiation. Breeding and offspring records will be kept on other animals throughout their life span. In order to carry out these and related studies the Atomic Energy Commission has contracted with the University of Tennessee, Knoxville, to carry on radiation experiments on animals ranging in size from mice to mature cattle.

Radioactive Materials Are "Tracer Tools"

Possibly the most positive returns from experimentation on radioactive materials has come from the tests tracing the course of fertilizer nutrients as they are taken into plants from the soil. The Commission states that "radioisotopes offer, for the first time, a tool by which these facts can be discovered accurately and in detail." Such research can be of immense value to the chemistry of soils, and extensive tests are now being conducted by the Bureau of Plant Industry, Soils and Agricultural Engineering, at Beltsville, Md.

In other studies scientists are hopeful that by exposing plants to a wide range of radiation intensity gene and chromosome mutation rates may be observed, as well as other less specific effects of radiation on plant growth. Plant diseases and parasite attacks similar to stem rust of wheat and smut affecting corn are also objects of radioisotope studies.

The mechanics of photosynthesis by which plants make sugar from carbon dioxide with the aid of sunlight and water can be studied through the plant-manufacturing of radioactive sugar. It is hoped that the studies may teach scientists how to duplicate the process outside of plants.

Under contract with the Commission, research organizations, Federal, State and private educational institutions are conducting many other unclassified projects which, though ranging widely in their connection with atomic energy, relate closely to the welfare of agriculture.



NONSECRET APPLICATIONS OF ATOMIC ENERGY STUDIED AT ARGONNE NATIONAL LABORATORY

Nonsecret types of research in the application of atomic energy to agriculture are being carried on at the radiobiology Experiment Station, Argonne National Laboratory. The studies relating to agriculture are part of a broader program in other research fields of biology which include medicine, biochemistry and physiology. Particular emphasis will be placed on experiments in biosynthesis through which scientists will be given an excellent opportunity to observe the effects of specific isotopes upon the growth of plants and animals. At the Station much progress has been made in preparing the special plant and animal facilities necessary for such research. These are designed to permit the maintenance of varied types of plants and animals in either radioactive or nonradioactive, controlled environment.

USDA Proclaims Marketing Quota And Acreage Allotment for Cotton

A national marketing quota of 11,733,750 bales (standard bales of 500 pounds gross weight) for the 1950 cotton crop was proclaimed and a national acreage allotment of 21,000,000 acres was announced October 13 by the Secretary of Agriculture. At the same time he announced a national referendum to be held December 15, 1949, in which farmers will vote for or against the marketing quota.

Under provisions of the Agricultural Adjustment Act of 1938, as amended, the Secretary must proclaim a national marketing quota whenever he finds during any calendar year that the total supply of cotton for the marketing year beginning in such calendar year exceeds the normal supply for that marketing year. However, the law specifically requires that for the 1950 crop, whatever the total supply may be, the national acreage allotment shall be not less than 21 million acres.

Quota Subject to Referendum

The quota will remain in effect if it is approved by at least two thirds of the farmers voting in the national marketing quota referendum. If more than one-third of the farmers voting disapprove, the marketing quota will be withdrawn. Only farmers who produced cotton in 1948 are eligible to vote in the referendum.

On the basis of the latest available statistics of the Federal Government, the "total supply" of cotton for the current marketing year is 20,659,000 running bales and the "normal supply" is 16,250,000 running bales. (A running bale is a bale as it comes from the gin and usually averages heavier than 500 pounds gross weight.)

According to findings of the Secretary, the total supply for cotton for the 1949-50 marketing year will exceed the normal supply by 4,409,000 running bales or 27.1 percent.

State and county Production and Marketing Administration committees are now compiling acreage data upon which to base farm acreage allotments. The national acreage allotment is broken down into State allotments, State allotments into county, and county allotments into individual farm allotments. Each cotton farm operator should receive his individual farm allotment before the referendum date. Six referendums have been held on cotton. The first was on March 12, 1938. All were approved by cotton growers. The last referendum was approved by farmers on December 12, 1942, for the 1943 crop. However, quotas were withdrawn on July 10, 1943, because of the war.

MARKETING BRIEFS:

Cotton.--CCC is considering the possibility of augmenting the cottonseed farm storage loan price support program, announced first on July 27 and now in effect in cotton states, by utilizing and expanding storage facilities at gins and oil mills. Such storage facilities would be used for the storage of loan cottonseed, as well as cottonseed and cottonseed products to which CCC might acquire title. Under the program, CCC makes nonrecourse loans at 90 percent of parity on clean, safely-stored cottonseed having a moisture content of 11 percent or less. The loans, secured by chattel mortgages on the seed, are made on cottonseed stored on or off the farm. In exploring the possibilities for augmenting present program operations, PMA field representatives will confer with cooperative processors regarding availability of storage space and ways to make the present support program more effective.

Dairy.--USDA announced in mid-September that it has denied requests for a public hearing to consider proposals for increasing the minimum price of Class I-A milk in the New York milk marketing area effective October 1. The proposed price increases were requested on the ground that the summer drought in the area has increased feed costs and may result in lower production and a shortage of milk during the fall and winter. USDA's denial of the requests was based on information indicating that the prices presently effective are adequately reflecting the supply and demand conditions for the market. Similar proposals for a September increase were denied by the Department September 1 . . . Minimum prices assured to dairy farmers in the Cincinnati, Ohio, milk marketing area have been increased by 15 cents per hundredweight through January 1950 for Class I (fluid milk) and Class II milk (fluid cream), USDA announced September 16. The increase is intended as an incentive to dairy farmers for the production of Grade A milk under the amended health regulations specifying Grade A milk for fluid uses . . . A decision to adopt a new set of long-range milk pricing provisions for determining the minimum price to be paid to dairy farmers for Class I milk (chiefly milk used as fluid milk and fluid cream) in the New Orleans, La., milk marketing area, will become effective October 1, if approved by producers supplying the market. USDA made the announcement September 22 . . . On September 21, USDA announced its decision to change the present method of pricing milk delivered by dairy farmers in the Cleveland, Ohio, Milk marketing area by amending the Federal order regulating the handling of milk there so as to (1) revise the pricing formulas used in determining the minimum prices to be paid dairy farmers for milk used in certain dairy products, and (2) change the classification of milk used in certain dairy products. Before the changes can become effective, they must be approved by more than two-thirds of the dairy farmers regularly supplying the Cleveland market.

Fruits and Vegetables.--USDA announced September 19 grade and size regulations relating to potato shipments from the State of Maine. Under the regulations--which became effective September 26 and continue in effect through June 30, 1950--shipments of all varieties of potatoes other than Bliss Triumph must meet the requirements of the U.S. No. 1 grade or better grade, and must be not less than 2 inches and not more than 4

inches in diameter. Shipments of Bliss Triumphs must be at least U. S. No. 1 grade and may not be below 1 7/8 inches minimum diameter. The regulations do not prescribe maximum sizes for this variety.... September 21 USDA recommended adoption, subject to grower approval, of proposed amendments to the Federal marketing order which regulates the handling of Irish potatoes grown in the Oregon-California production area. If adopted, will give the administrative committee, composed of local potato growers and handlers, greater flexibility in operation of the marketing program. Provision is made for the committee to recommend regulation of potato shipments by grade, size, quality, and maturity of any or all varieties of table stock or seed, by either consumer or wholesale packs, or both, for any or all portions of the production area, during any period of the marketing season. The committee could also recommend that special consideration be given to shipments for certain purposes such as to export or manufacturing outlets, for livestock feed, or for relief distribution.... Selection of a committee to administer a Federal marketing order, effective September 28, 1949, regulating the handling of Irish potatoes grown in the State of Washington, will be announced shortly. The program is based on evidence developed at a public hearing held in Yakima, Washington, in April 1949 and was proposed by the Washington State Potato Growers Association, Inc. to provide a method for improving the marketing of the potato crop. In a recent referendum, the order was favored by 74 percent of the producers voting and by producers of 75 percent of the potatoes represented in the voting.... A Federal marketing agreement and order regulating the handling of pecans grown in Georgia, Alabama, Florida, Mississippi, and South Carolina has been established. The regulatory provisions of the program will become effective prior to the beginning of the pecan shipping season, the exact date to be announced by the Secretary. Other provisions, covering administrative organization and non-regulatory provisions will become effective September 20, 1949.

Grain.--Corn price support rates for the 1949 crop, ranging by counties from \$1.29 to \$1.66 a bushel, and averaging \$1.40 nationally, were announced October 3 by USDA. Rates for 1948-crop corn averaged \$1.44 nationally. While the 1949 rates for individual counties are available at the respective State PMA offices or at the Grain Branch, PMA, Washington, D. C., the 1949 loan and purchase rates are based upon 90 percent of the parity price of corn as of October 1, 1949, as required by the controlling legislation. Parity for that date was \$1.55 a bushel as a national average.... Early in September USDA announced price support of \$2.11 a bushel for 1949-crop green and yellow soybeans grading U.S. No. 2 and containing not more than 14 percent moisture. Brown, black, and mixed soybeans will be supported at \$1.91 per bushel. Premiums and discounts will apply to other grades. This price support is based on 90 percent of the comparable price for all soybeans on September 1, 1949. To be eligible for loan or purchase agreements, the soybeans must grade U.S. No. 4 or better, and must not contain more than 14 percent moisture.... Flaxseed price support at 60 percent of the farm parity price as of April 1, 1950 for the 1950 crop was September 16 by USDA. This compares with 90 percent of parity for the 1949 crop. The actual support price for the 1950 crop will be announced about April 1, 1950.

ABOUT MARKETING

The following addresses, statements, and publications, issued recently, may be obtained upon request. To order, check on this page the publications desired, detach and mail to the Production and Marketing Administration, U. S. Department of Agriculture, Washington 25, D. C.

Addresses and Statements:

Statement by Ralph S. Trigg, Administrator of the Production and Marketing Administration and President of the Commodity Credit Corporation, United States Department of Agriculture, on legislation to implement operations under the International Wheat Agreement. September 21, 1949. 5 pp. (Processed)

The General Livestock Situation and Outlook, a statement by Charles A. Burmeister, Livestock Branch, PMA, USDA, Washington, D. C., August 31, 1949. 10 pp. (Processed)

Publications:

Storage of Ear Corn on the Farm. (PMA) F. B. No. 2010. September 1949. 27 pp. (Printed)

Storage of Small Grains and Shelled Corn on the Farm. (PMA) F. B. 2009. September 1949. 30 pp. (Printed)

Turkey on the Table the Year Round. (Bureau of Human Nutrition and Home Economics, and Bureau of Animal Husbandry, Agricultural Research Administration, and Poultry Branch, Production and Marketing Administration.) F. B. No. 2011. August 1949. 21 pp. (Printed)

Livestock Market News: Statistics and Related Data. (PMA) CS-38. August 1949. 83 pp. (Processed)

School Lunch Recipes for 25 and 50. (Bureau of Human Nutrition and Home Economics and PMA) PA-68. September 1949. 47 pp. (Printed)

Apple Storage Prospects 1949-50. Marketing Facilities Branch, PMA. September 1949. 5 pp. (Processed)

Grain Storage Facilities in North Carolina, 1948: Summary of a Study by the North Carolina USDA Council and PMA, Bureau of Agricultural Economics cooperating. May 1949. 8 pp. (Processed)

Fiber and Spinning Test Results for Some Cotton Varieties Grown by Selected Cotton Improvement Groups, Crop of 1949. (PMA) August 1949. 2 pp. (Processed)

Marketing Colorado Peaches: Brief Review of the 1949 Season. PMA, Colorado Dept. of Agriculture Cooperating. Sept. 9, 1949. 4 pp. (Processed)

ABOUT MARKETING (Cont'd)

Regulations and Fees for Cotton Testing Service, Effective September 15, 1949. (PMA) 4 pp. (Processed)

Problems in Marketing Potatoes: Preliminary Results of Some Recent Research. (BAE) July 1949. 60 pp. (Processed)

The Wholesale Produce Market at St. Louis, Mo. PMA in cooperation with Missouri State Department of Agriculture. June 1949. 155 pp.

In addition to the St. Louis, Mo. market study mentioned above, similar earlier studies are available for the following cities or areas:

Baton Rouge, La.; Fruits, Vegetables, Poultry, and Eggs.

Benton Harbor, Mich.; Fruit.

Columbia, S. C.; Produce.

Columbus, Ohio; Fruits, Vegetables, Poultry, and Eggs.

Greenville, S. C.; Fruits, Vegetables, Poultry, and Eggs.

Hartford, Conn.; Fruits, Vegetables, Poultry, and Eggs.

Houston, Tex.; Fruits, Vegetables, Meat and Meat Products, Poultry, Eggs, and Other Produce.

Jackson, Miss.; Fruits, Vegetables, Poultry, and Eggs.

Miami, Fla.; Fruit and Vegetables.

New Haven, Conn.; Fruits, Vegetables, Poultry, and Eggs.

Richmond, Va.; Fruits, Vegetables, Poultry, and Eggs.

Sumter and Lake Counties, Fla.; Fruits and Vegetables.

Tampa, Fla.; Fruit and Vegetables.

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